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(12) **United States Patent**  
**Bringe**(10) **Patent No.:** **US 7,094,751 B2**(45) **Date of Patent:** **\*Aug. 22, 2006**(54) **HIGH BETA-CONGLYCININ PRODUCTS AND THEIR USE**(75) Inventor: **Neal A. Bringe**, Saint Charles, MO (US)(73) Assignee: **Monsanto Corporation**, St. Louis, MO (US)

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This patent is subject to a terminal disclaimer.

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(51) **Int. Cl.**

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(52) **U.S. Cl.** ..... **514/2**; 426/656; 530/378

(58) **Field of Classification Search** ..... 514/2;  
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 See application file for complete search history.

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The utility of soybeans having a composition of greater than 40% of the protein as beta-conglycinin and less than 10% of the protein as glycinin for making highly functional high beta-conglycinin compositions was discovered. The discovered ingredients are useful for mimicking the texturizing properties of casein while also maintaining or improving physiological benefits of soy protein ingredients (e.g., cholesterol and triglyceride lowering properties). The high stability of the high beta-conglycinin compositions against protein-protein aggregation reactions is valuable for creating good tasting beverages and beverage mixes. Cheese with good spreadability, gloss and smoothness was made using an enzyme-modified version of the new ingredient composition. Cheese with good firmness and meltability was also create using a different enzyme-treatment. High beta-conglycinin compositions were found to demonstrate excellent emulsifying and gelling properties in the pH region (5.5–6.2) relevant to meat applications. High beta-conglycinin compositions also have possible use for improving the composition of essential amino acids for infant human and animals.

**56 Claims, No Drawings**